

REMARKS

Claims 1-12 are pending. Claims 5-12 have been withdrawn. Claim 3 has been canceled without prejudice or a disclaimer. Claims 1-4 stand rejected. Claim 1 is an independent claim.

Claim 1 stands rejected under 35 U.S.C. '102(b) as allegedly being anticipated by Harding (U.S. 4,793,840).

Claim 1 recited, *inter alia*, “**a calculation unit that** receives a drawing speed signal output from the capstan; **calculates a first feed speed of the preform**; **calculates a slope of the drawing speed during a previously arbitrary period of time**; **obtains an expected drawing speed of a future arbitrary time period** by using the calculated slope; **estimates a first compensation value** according to a difference between the present drawing speed and a target drawing speed **and a second compensation value** according to a difference between the present drawing speed and the expected drawing speed of the arbitrary time later; and **calculates a second preform feed speed based on the estimated compensation values.**” The support for calculation unit of claim 1 can be found in the original claim 3 and Figure 5.

According to the United States Court of Appeals for the Federal Circuit, a claim is anticipated **only if a single prior art reference sets forth all features recited in a claim** (*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)), **including those in functional language** (*In re Schreiber*, 128 F.3d 1473, 1478, 44 USPQ.2d 1429 (Fed. Cir. 1997) (holding that the patent applicant is free to recite features of an apparatus claim in functional language as long as the features are not inherent to the prior art)).

In rejecting the present claims, the Office Action indicates that “Harding was capable performing all of the claimed functions” (present Office Action, page 4). The Office Action, however, does not provide any evidence to support the Office Action’s indication.

Harding, as read by applicant, discloses an optical fiber drawing apparatus, where the calculations performed by the apparatus are limited to those performed by the **control algorithms 24 and 21** (column 2, line 21-30 and 54-68 and column 3, line 1-20 (indicating that other components does not perform calculations)). However, neither algorithm, according to Harding, performs any one of the calculations recited in claim 1. Instead, the control algorithm 24 **detects the deviation between the actual and predetermined fiber diameters and calculates the deviation of the two diameters** (column 2, line 24-29 and 54-68), whereas the control algorithm 21 **detects the deviation between the actual and predetermined capstan speeds and calculate the deviation of two speeds** (column 3, line 1-17).

Applicant respectfully submits that the detection and/or calculation of the deviations are inherently different from any one of the calculations recited in claim 1. Therefore, by disclosing either control algorithms, Harding does not set forth, either explicitly or implicitly, a component that **“calculates a slope of the drawing speed during a previously arbitrary period of time; obtains an expected drawing speed of a future arbitrary time period** by using the calculated slope; **estimates a first compensation value** according to a difference between the present drawing speed and a target drawing speed **and a second compensation value** according to a difference between the present drawing speed and the expected drawing speed of the arbitrary time later; **and calculates the preform feed speed based on the estimated compensation values,**” as recited in claim 1. In the process, Harding fails to anticipate claim 1. Applicant respectfully requests withdrawal of the rejection on a substantive ground that Harding fails to anticipate claim 1.

If the Office Action maintains that Harding is capable performing all of the recited functions, applicant respectfully requests concrete documentary evidence to support the Office

Action's assertion, as required by the Federal Circuit (see *In re Zurko*, 258 F.3d 1379, 59 USPQ2d 1693 (Fed. Cir. 2001)). Otherwise, applicant respectfully requests withdrawal of the rejection on an additional procedural ground, as required by MPEP 2144.03(C).

Further, applicant respectfully submits that claim 1 is patentable over Harding for the following reason.

The present invention discloses a draw apparatus that calculates the expected drawing speed during arbitrary, subsequent or future draw period by determining the change tendency of the draw speed during past draw period (see claim 1). Moreover, the present invention calculates a plurality of compensation values. With the calculated expected draw speed of the arbitrary, subsequent or future draw period and the calculated compensation value, the present invention calculates the second preform feed speed (*id.*).

As noted in the specification, the speed by which the preform is fed into the melting furnace affects the drawing speed of the optical fiber in a subsequent draw period (page 3, line11-16). Therefore, the calculation of the second preform feed speed allows the present invention to regulate the first preform feed speed and control the drawing speed of the optical fiber during a particular draw period.

Harding discloses an optical fiber draw apparatus that feeds an optical fiber preform and that pulls a fiber from the preform at first and second predetermined rates, respectively. Thereafter, Harding modifies the first and second predetermined rates in order to maintain the optical fiber at a predetermined diameter.

However, nowhere in Harding is there a disclosure of a component that calculates the expected draw speed during an arbitrary, subsequent or future draw period or a component that estimates the compensation values. Therefore, the present invention is different from Harding,

Amendment
Serial No. 10/619,995


and Harding does not anticipate claim 1. Applicant respectfully requests withdrawal of the rejection.

Other claims in this application are each dependent on the independent claim 1 and believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, individual consideration of the patentability of each on its own merits is respectfully requested.

Should the Examiner deem that there are any issues which may be best resolved by telephone, please contact Applicant's undersigned representative at the number listed below.

Respectfully submitted,

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3/29/06

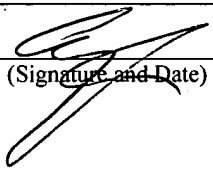
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